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SHORT REPORT

Prevalence of Psoriasis and Perceived Association with Hormone Therapy in Transgender Adults

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Abstract

Purpose: The role of hormone therapy (HT) in the etiology and progression of psoriasis in the transgender population is unclear.

Methods: The prevalence of psoriasis in transmasculine (TM) and transfeminine (TF) adults and perceived links between psoriasis and gender-affirming HT is examined using a cross-sectional survey of 696 transgender individuals.

Results: Ever diagnosis of psoriasis was reported by 17 TM persons (4.9%; 95% confidence interval [CI]: 2.6–7.2) and 13 TF persons (3.7%; 95% CI: 1.7–5.7). Prevalence of current psoriasis in TM persons was 2.6% (95% CI: 0.9–4.3) and 1.1% (95% CI: 0.03–2.3) among TF persons. Notably, among participants who had ever had psoriasis, 17% perceived a link between their psoriasis and gender-affirming HT.

Conclusions: Prevalence of psoriasis among transgender persons resembled estimates in the general population. Potential associations between psoriasis and its severity with gender-affirming HT warrant further longitudinal research.

Keywords: dermatology; epidemiology; hormone therapy; psoriasis; transgender

Introduction

The epidemiology and impact of skin diseases are increasingly recognized in transgender persons. Skin conditions related to gender-affirming hormone therapy (HT) and procedures are beginning to be recognized in the transgender population but continue to be underdiagnosed. Masculinizing HT can cause acne vulgaris and androgenic alopecia, whereas feminizing therapy can cause melasma, androgenic hair can cause hirsutism, and subsequent shaving can cause pseudofolliculitis barbae.[1] The potential impact of other dermatological conditions in the transgender population has yet to be elucidated.

Psoriasis is a common immune-mediated inflammatory skin disease that affects ~3% of the general U.S. population and can severely impact health-related quality of life.[2] Psoriasis has many clinically diverse variants, including plaque, guttate, erythrodermic, and pustular psoriasis, with plaque psoriasis representing the majority of presentations. Although psoriasis is generally thought of in the context of the skin, it also has impactful systemic effects including psoriatic arthritis and risk for comorbidities such as cardiovascular disease and psychiatric disease. The epidemiology of psoriasis in the transgender population remains unknown.

The role of both endogenous and exogenous sex hormones on the incidence and severity of psoriasis is controversial. Some studies suggest elevated estrogen may be associated with less severe psoriasis.[3] In the Women's Health Initiative, women taking estrogen plus progesterone had a lower incidence of psoriasis compared with placebo, whereas those taking only estrogen showed no difference compared with placebo.[4] Limited evidence suggests a

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relationship between low serum testosterone and psoriasis severity in cisgender men[5] and improvement of psoriasis therapy with testosterone replacement in hypogonadal males.[6]

The aim of this study is to determine the prevalence of psoriasis within a cohort of transgender persons and assess the perceived relationship between gender-affirming HT and psoriasis.

Methods

This study evaluated psoriasis prevalence in transgender adults and the perceived links between gender-affirming HT and disease progression using a cross-sectional survey nested in the multicenter Study of Transition, Outcomes, and Gender (STRONG). The Emory University Institutional Review Board approved this study.

STRONG eligibility consisted of enrollment in Kaiser Permanente of Northern California, Southern California, or Georgia between January 1, 2006 and December 31, 2014. Participants were transmasculine (TM) and transfeminine (TF) adults, 18 years or older, with one or more transgender-specific diagnostic codes determined by the International Classification of Diseases, Ninth Revision.[5] Participant eligibility consisted of physician consent for contact and self-reported gender identity differing from sex assigned at birth.

TM and TF categorization was based on sex assigned at birth. Survey invitations were sent through regular mail with a website link and unique password. Participants were asked to review the electronically signed consent. Two reminders were sent to individuals who did not respond to the initial invitation. Participants electronically signed an informed consent form online prior to survey completion. Relevant survey questions included history of psoriasis, gender-affirming medications or procedures, current dermatology appointments, and perception of link between psoriasis and HT (Supplementary Data S1).

Comparisons between TM and TF persons focused on prevalence of psoriasis as diagnosed by a doctor and its perceived link to HT. Statistical analyses involved chi-square and Fisher's exact tests for tests with any cell of the contingency table <5, and were performed using SAS 9.4 (Cary, NC) with two-sided p-values of <0.05 considered statistically significant. This study was approved by the Emory Institutional Review Board IRB00062742.

Results

Among 2136 eligible transgender persons, 696 (33%) completed the survey and 631 (90.7%) persons reported ever having received HT. Five hundred ninety-five (85%, including 305 TM and 290 TF persons) provided a response on psoriasis diagnosis. We combined the missing category with the category of no prior history of psoriasis to produce conservative estimates of current psoriasis prevalence. Demographics and prevalence of psoriasis in transgender adult respondents are displayed in Table 1. Ever diagnosis of psoriasis was reported by 17 TM persons (4.9%; 95% confidence interval [CI]: 2.6–7.2) and 13 TF persons (3.7%; 95% CI: 1.7–5.7; $p=0.44$).

Prevalence of current psoriasis in TM persons was 2.6% (95% CI: 0.9–4.3) and 1.1% (95% CI: 0.03–2.3) among TF persons ($p=0.39$). Prevalence of past psoriasis in TM persons was 2.3% (95% CI: 0.7–3.9) and 2.6% (95% CI: 0.9–4.2) among TF persons. Only one person who had not received any form of gender-affirming treatment reported ever having psoriasis. Among 29 respondents ever diagnosed with psoriasis, 5 (17.2%; 95% CI: 3.5–31.0) perceived a link between their disease and gender-affirming HT. Six of 30 patients (20%; 95% CI: 7.3–34.3) who have ever had a diagnosis of psoriasis currently see a dermatologist and 4 out of 13 (30.8%; 95% CI: 5.7–55.9) of participants who presently have psoriasis currently see a dermatologist.

Discussion

Prevalence of psoriasis among transgender persons in this survey resembled estimates in the general population, which were similar between men and women. Although the overall percentages reflect the general population, almost 20% of participants with a history of psoriasis reported a perception of link between gender-affirming HT and psoriatic disease.

The potential link reported by patients could represent either positive or negative association between HT and psoriasis incidence or severity; this should be further clarified in future studies. More information on the temporal association between psoriasis development, flares, or periods of worsening disease, and gender-affirming HT would provide valuable insight into the epidemiological relationship between exogenous sex hormones and psoriasis.

Large-scale longitudinal studies assessing both HT regimens and the development of psoriasis and other dermatological diseases can help delineate the complex interplay between sex hormones and these diseases. Understanding the impact of gender-affirming HT on common dermatological conditions can lead to more informed discussions on risks and benefits of

Table 1. Demographics and Prevalence of Psoriasis in Transgender Adults

Characteristics	All (*n*) %	TM, *n* (%)[a]	TF, *n* (%)[b]	*p*
Total				
Age at time of survey				
18–29	217 (31.2)	148 (42.8)	69 (19.7)	<0.0001
30–39	156 (22.4)	104 (30.1)	52 (14.9)	
40–54	168 (24.1)	69 (19.9)	99 (28.3)	
≥55	155 (22.3)	25 (7.2)	130 (37.1)	
Race/ethnicity				
Non-Hispanic white	392 (56.3)	191 (55.2)	201 (57.4)	0.66
Non-Hispanic black	20 (2.9)	13 (3.8)	7 (2.0)	
Non-Hispanic Asian/Pacific Islander	48 (6.9)	25 (7.2)	23 (6.6)	
Hispanic	133 (19.1)	68 (19.7)	65 (18.6)	
Other/declined	103 (14.8)	49 (14.2)	54 (15.4)	
History of gender-affirming treatments[c]				
None	28 (4.0)	11 (3.2)	17 (4.9)	<0.0001
HT only	234 (33.6)	76 (22.0)	158 (45.1)	
Chest surgery without genital surgery	171 (24.6)	142 (41.0)	29 (8.3)	
Genital surgery with or without chest surgery	233 (33.5)	103 (29.8)	130 (37.1)	
Missing information	30 (4.3)	14 (4.1)	16 (4.6)	
Psoriasis diagnosis by a physician[d,e]				
No	666 (95.7)	329 (95.1)	337 (96.3)	0.39
Yes, currently	13 (1.9)	9 (2.6)	4 (1.1)	
Yes, in the past	17 (2.4)	8 (2.3)	9 (2.6)	
Psoriasis linked to HT[e]				
Yes	5 (17.2)	3 (18.8)	2 (15.4)	1.0
No	24 (82.8)	13 (81.3)	11 (84.6)	
Diagnosis of psoriasis and sees a dermatologist				
Yes	6 (20.0)	2 (11.8)	4 (30.8)	0.36
No	24 (80.0)	15 (88.2)	9 (69.2)	

Numbers may not add up to the total number of participants because, unless otherwise specified, we excluded categories with missing data totaling <5%.

[a]TM refers to transgender persons with current gender identity that differs from female natal sex.

[b]TF refers to transgender persons with current gender identity that differs from male natal sex.

[c]Chest surgery referred to any history of mastectomy or breast augmentation, and genital surgery referred to any history of hysterectomy, orchiectomy, vaginectomy, and/or vaginoplasty. The majority (98.3%) of respondents with a history of chest surgery and/or genital surgery had received HT.

[d]We combined the missing category with no prior history of psoriasis to produce conservative estimates of current psoriasis prevalence.

[e]Fisher's exact test used due to cell size <5.

HT, hormone therapy; TF, transfeminine; TM, transmasculine.

gender-affirming HT regimens between patients and providers. Furthermore, it will allow for more cohesion between gender-affirming HT providers and dermatologists in the comprehensive care of transgender patients.

Another notable finding was the low percentage of dermatological care for patients with psoriasis. Only 20% of patients ever diagnosed with psoriasis and 30.8% of patients with current psoriasis currently see a dermatologist, although data are lacking for dermatology care before survey administration.

The lack of utilization of dermatological care is likely multifactorial, with underdiagnosis and undertreatment of psoriasis and the discrimination transgender persons face utilizing health care as potential contributors. Psoriasis is underdiagnosed and undertreated in the general population even when properly identified.[7] One survey of 1657 respondents identified through the National Psoriasis Foundation contact database estimated almost 40% of patients with psoriasis were not receiving treatment. This rate was similar among those with moderate (37%) and severe (39%) psoriasis suggesting undertreatment is similar across the spectrum of severity.[8]

Although barriers exist to psoriasis treatment in the general population, transgender-specific barriers may contribute as well. A recent study reported that 29% of transgender patients reported health care-related discrimination and 20% reported not seeing a physician due to possible mistreatment.[9] Further investigation into whether discrimination was a barrier in dermatological care of transgender patients is warranted.

Limitations of this research include a small number of psoriasis cases, survey question design only

inquiring about current dermatological care, self-report of psoriasis diagnosis without objective validation, missing responses categorized as "no psoriasis," and potential for recall bias. Inclusion of privately insured survey participants may limit generalizability to transgender patients with limited access to care.

Conclusion

The impact of exogenous hormones on psoriasis warrants additional research. Future research should examine this association using large longitudinal studies with psoriasis severity assessments and gender-affirming HT data.

Disclaimer

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health or the Department of Veterans Affairs.

Author Disclosure Statement

No competing financial interests exist.

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Supplementary Material

Supplementary Data S1

References

1. Yeung H, Kahn B, Ly BC, Tangpricha V. Dermatologic conditions in transgender populations. Endocrinol Metab Clin North Am. 2019;48:429–440.
2. Kurd SK, Gelfand JM. The prevalence of previously diagnosed and undiagnosed psoriasis in US adults: results from NHANES 2003–2004. J Am Acad Dermatol. 2009;60:218–224.
3. Danesh M, Murase JE. The immunologic effects of estrogen on psoriasis: a comprehensive review. Int J Womens Dermatol. 2015;1:104–107.
4. Chan AA, Noguti J, Yang CT, et al. Association between menopausal hormone therapy and incidence of psoriasis: a secondary analysis from the women's health initiative randomized clinical trials. Br J Dermatol. 2021; 185:669–671.
5. Allam JP, Bunzek C, Schnell L, et al. Low serum testosterone levels in male psoriasis patients correlate with disease severity. Eur J Dermatol. 2019;29: 375–382.
6. Saad F, Haider A, Gooren L. Hypogonadal men with psoriasis benefit from long-term testosterone replacement therapy—a series of 15 case reports. Andrologia. 2016;48:341–346.
7. Kim WB, Jerome D, Yeung J. Diagnosis and management of psoriasis. Can Fam Phys. 2017;63:278–285.
8. Horn EJ, Fox KM, Patel V, et al. Are patients with psoriasis undertreated? Results of National Psoriasis Foundation survey. J Am Acad Dermatol. 2007; 57:957–962.
9. Kachen A, Pharr JR. Health care access and utilization by transgender populations: a United States Transgender Survey Study. Transgend Health. 2020;5:141–148.

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Abbreviations Used

CI = confidence interval
HT = hormone therapy
STRONG = Study of Transition, Outcomes, and Gender
TF = transfeminine
TM = transmasculine